

Remarks

Applicants have amended Claim 1 to recite that the raw water supply port is formed on the lateral face of the cylindrical case. Support for this Amendment can be found on page 7, lines 4 and 5 of the Specification. Applicants have further amended Claims 1-6, 10-14, and 16-22 to resolve minor claim language informalities. For purposes of clarification only, the Applicants have amended claim 3-5, so that the claims now read "a spacer". The Applicants note that the Specification provides support for more than one spacer, as can be seen on page 31, lines 20-24, along with Figs. 1 and 3, which illustrate that one or more spacers may protrude from the inner wall surface of the cylindrical case. No new matter has been added.

Claim Rejection Under 35 U.S.C. §102

Claims 1, 6 and 17 have been rejected as being anticipated by JP '628. A cited reference must disclose each and every element claimed to maintain a rejection under 35 U.S.C. §102(b). The Patent Office must demonstrate that a single prior art reference has all of the elements contained in the claim limitations. Continental Can Co. USA, Inc. v. Monsanto Co., 20 USPQ2d 1746, 1749-50 (Fed. Cir. 1991). An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed in the prior art and that such existence would be recognized by persons of ordinary skill in the field of the invention. See In Re Spada, 16 USPQ2d 1655, 1657 (Fed. Cir. 1990).

In Crown Operation, the Court reviewed the role of inherency in an anticipation rejection. The Court held that "if the two percent reflectance limitation is inherently disclosed by the Gilery Patent, it must be necessarily present so that a person of ordinary skill in the art would recognize its presence." Id. at 1923, citing In re Robertson, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1981). Inherency "may not be established by

probabilities or possibilities. Further, "in relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to support the determination that the alleged inherent characteristic necessarily flows from the teaching of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. 1990) [emphasis added].

The Applicants have already identified structural differences between the Applicants' claimed invention and JP '628. The Applicants respectfully submit that the claimed elements j, k, l and n are not disclosed by JP '628. Nothing in JP '628 expressly or implicitly discloses the Applicants' elements j, k, l and n. Since JP '628 fails to disclose these elements, the Patent Office must demonstrate that these elements are inherent in the JP '628 disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Continental Can Co. v. Monsanto Co., 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). Nothing in this Record lends support to an inherency based rejection. In fact, the Applicants respectfully submit that the Applicants' elements j, k, l and n allow the Applicants' claimed membrane module to function in a manner not remotely contemplated by JP '628.

In particular, the Applicants' claimed raw water supply port (5), of element j, is formed on the lateral face and perpendicular to the filtration chamber, whereas JP '628 discloses a raw water supply port (21) formed parallel to the end of the filtration chamber. In other words, the Applicants' claimed filter pushes water perpendicular to the fluid flow of the filter. In sharp contrast, as can be seen in Fig. 1 of JP '628, fluid flows parallel to the filtration chamber. Since the Applicants' raw water supply port (5) is formed on the lateral face, the suspended matter is not deposited in the portions where the raw water passes.

The Applicants invite the Examiner's attention to the following passage of the Applicants' Specification, which illustrates the benefit of forming the well water supply port on the lateral face:

However, in the invention, since the raw water supply port is formed on a lateral face of the cylindrical case separately from the drain port for the drain of backwashing, it can be insured that the suspended matter is not deposited in the portions where the raw water passes.

The Applicants respectfully submit that until the Applicants' claimed invention, the art did not recognize the advantage of forming a raw water supply port on the lateral face.

The Applicants respectfully submit that nothing in JP '628 discloses a port (91) that could inherently function for air discharge. JP '628 does not disclose that port (91) is configured to function as an air discharge port, and no evidence has been offered which illustrates this possibility. Nothing in JP '628 discloses that port (91) is configured to uniformly distribute air to the respective modules during aeration or flushing. Furthermore, nothing in JP '628 indicates that port (91) is capable of initiating air pressure. The Official Action offers no evidence to show that port (91) is capable of initiating air pressure. In sharp contrast, the Applicants claimed air supply port (12) is configured to substantially uniformly distribute air to the core modules (50) during aeration flushing as described in the Applicants' Specification at page 25, lines 11-18.

The Applicants respectfully submit that element (n), as defined by Claim 1, is not disclosed by JP '628. The Applicants respectfully submit that the first and second supply ports (91, 92) of JP '628 are formed in the cylindrical case, and open towards the filtration chamber. In sharp contrast, the Applicants' drain port (10) is formed in the second cap (1eb) and opens toward a second chamber (9). As described on page 28 lines 5-20, and page 7 lines 4-8, this structural difference ensures that the drain port (10) of backwashing water is separate from the raw water supply port. The Applicants' structural feature

ensures that during backwashing, suspended matter is not deposited in the portions where the raw water passes. Nothing in JP '628 discloses elements which are suitable to prevent matter from being suspended where the raw water passes. It is respectfully submitted that the Applicants' drain port provides a functional advantage not previously recognized or disclosed in the prior art. In particular, the Applicants' claimed drain port has increased filtration performance even after backwashing treatment.

Claims 1-5, 8 and 9 have been rejected under 35 U.S.C. §102(b) as anticipated by JP '507. Applicants respectfully submit that element (i), the second sealing body, of Claim 1 is not referred to in the alternative. Rather, Claim 1 refers to the bundle as either closed against the second chamber, or attached to the first sealing body. It is the claims which measure the invention. The danger of improperly importing a limitation is even greater when the reported limitation is based upon a term not appearing in the claim language.

The Applicants respectfully submit that the claims do not reference the "second sealing body" in the alternative. Specifically, element (c) of Claim 1 discloses a second sealing body for sealing the other end of the cylindrical case, wherein one end of a bundle is opened toward a first chamber and attached to the second sealing body. As has been acknowledged in the Official Action, JP '507 fails to disclose a second sealing body. In fact, JP '507 discloses an air injection port (6), which is opened directly toward a filtration chamber formed by the inner wall surface of the first sealing body (3) with no second sealing body contained therein. As a result, JP '507 fails to disclose Applicants' element (c), since there is no second sealing body described in JP '507.

The Applicants respectfully submit that it logically follows that JP '507 also fails to disclose a "second chamber" since there is no second sealing body contained therein. There is no second chamber without a second sealing body. Thus, JP '507 fails to disclose the Applicants' claimed second chamber formed by the inner wall surface of the second

cap and the outer wall surface of the second sealing body. Applicants further submit that both of Applicants' elements (j) and (e) are distinguishable from JP '507 since JP '507 fails to disclose a second sealing body. The Applicants respectfully request withdrawal of the 35 U.S.C. §102(b) rejections of Claims 1-5, and 8-9 based on JP '507.

Claim Rejections Under 35 U.S.C. §103

Claim 7 has been rejected as being obvious over JP '507. Applicants respectfully submit that the deficiencies of JP '507 apply to the obviousness analysis of Claim 7. As frankly acknowledged by the Examiner, JP '507 fails to disclose the "check valve" of Applicants' Claim 7. Furthermore, JP '507 does not disclose a second sealing body and/or a second chamber. Thus, even if it were obvious to one of ordinary skill in the art to utilize a "check valve," it would fail to cure the fundamental deficiency of JP '507 as it applies to the independent claim upon which Claim 7 is based. Withdrawal of the 35 U.S.C. §103 rejection of Claim 7 based on JP '507 is respectfully requested.

Claim 10 has been rejected as being obvious over the hypothetical combination of U.S. '264 and JP '507. The Applicants respectfully submit that despite the fact that U.S. '264 may describe non-lead thermal stabilizers for PVC, it fails to cure the fundamental deficiency associated with JP '507 as it applies to the independent claim from which Claim 10 is based. Essentially, even if one or ordinary skill in the art hypothetically combined U.S. '264 with JP '507, the resulting structure would fail to teach and/or suggest a second sealing body for sealing the other end of the cylindrical casc, and a second chamber formed by the inner wall surface of the second cap at the outer wall surface of the second sealing body. Withdrawal of the rejection of Claim 10 based on the hypothetical combination of U.S. '264 with JP '507 is respectfully requested.

The same reasoning applies to the 35 U.S.C. § 103 rejection of Claims 11 and 12 based on the hypothetical combination of U.S. '047 and U.S. '917 with JP '507. Neither

U.S. '047 or US '907 cure the fundamental deficiencies of JP '507 with respect to the second sealing body and second chamber. As a result, even if one of ordinary skill in the art were to make the hypothetical combination, the resulting structure would still lack the second sealing body and the second chamber. Consequently, withdrawal of rejection of Claims 11 and 12 based on this hypothetical combination is respectfully requested.

Claims 13-16 have been rejected under 35 U.S.C. § 103 based on the hypothetical combination of U.S. '756 with JP '507. Applicants respectfully submit that if one of ordinary skill in the art were to make the hypothetical combination, the resulting structure would still lack a second sealing body and second chamber. Accordingly, the hypothetical combination cannot support the rejections of Claims 13-16. Withdrawal of the rejection of Claims 13-16 is respectfully requested.

Claims 18-22 have been rejected under 35 U.S.C. § 103 over the hypothetical combination of U.S. '528 with JP '628. As noted above, JP '628 fails to disclose the Applicants' raw water supply port, including an air discharge port formed in the cylindrical case, fluid flow holes for allowing the flow of air and drain formed in the second sealing body, and a drain port formed in the second cap. Applicants submit that U.S. '528 fails to cure these deficiencies. As such, even if one of ordinary skill in the art were to make the hypothetical combination of U.S. '528 with JP '628, the resulting structure would fail to include a raw water supply port formed in the cylindrical case, including an air discharge port formed in the cylindrical case, fluid flow holes for allowing the flow of air and drain formed in the second sealing body, and a drain port formed in the second cap. Accordingly, withdrawal of the rejection of Claims 18-22 is respectfully requested.

In light of the foregoing, the Applicants submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,


T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC:pam
(215) 656-3381